

**Supplemental Table 1. Content of Photosynthetic Pigments and Tocopherols of Col and the *vte2* and *vte1* Mutants Grown at Permissive condition**

	<b>Before HL1800</b>			
	<b>Col</b>	<b><i>vte2-1</i></b>	<b><i>vte1-1</i></b>	<b><i>vte1-2</i></b>
Total tocopherols	<b>0.11 ± 0.01<sup>a</sup></b>	<b>0 ± 0<sup>b</sup></b>	<b>0 ± 0<sup>b</sup></b>	<b>0 ± 0<sup>b</sup></b>
Total chlorophylls	<b>21.90 ± 1.14</b>	<b>20.51 ± 1.70</b>	<b>20.15 ± 1.12</b>	<b>21.26 ± 1.19</b>
Chla	<b>15.26 ± 0.77</b>	<b>14.25 ± 1.18</b>	<b>14.02 ± 0.79</b>	<b>14.78 ± 0.84</b>
Chlb	<b>6.64 ± 0.37</b>	<b>6.25 ± 0.53</b>	<b>6.13 ± 0.33</b>	<b>6.49 ± 0.35</b>
Chla/Chlb	<b>2.30 ± 0.03</b>	<b>2.28 ± 0.02</b>	<b>2.29 ± 0.01</b>	<b>2.28 ± 0.02</b>
Total carotenoids	<b>3.56 ± 0.23</b>	<b>3.32 ± 0.28</b>	<b>3.28 ± 0.18</b>	<b>3.44 ± 0.22</b>
β-car	<b>0.61 ± 0.05<sup>a</sup></b>	<b>0.57 ± 0.03<sup>b</sup></b>	<b>0.55 ± 0.03<sup>b</sup></b>	<b>0.59 ± 0.05<sup>ab</sup></b>
lutein	<b>1.85 ± 0.13</b>	<b>1.72 ± 0.16</b>	<b>1.70 ± 0.10</b>	<b>1.79 ± 0.12</b>
N	<b>0.59 ± 0.03</b>	<b>0.55 ± 0.05</b>	<b>0.54 ± 0.03</b>	<b>0.57 ± 0.03</b>
V	<b>0.51 ± 0.04</b>	<b>0.48 ± 0.05</b>	<b>0.49 ± 0.03</b>	<b>0.50 ± 0.03</b>
A	<b>0 ± 0</b>	<b>0 ± 0</b>	<b>0 ± 0</b>	<b>0 ± 0</b>
Z	<b>0 ± 0</b>	<b>0 ± 0</b>	<b>0 ± 0</b>	<b>0 ± 0</b>
A+Z+V	<b>0.51 ± 0.04</b>	<b>0.48 ± 0.05</b>	<b>0.49 ± 0.03</b>	<b>0.50 ± 0.03</b>
A+Z/A+Z+V	<b>0 ± 0</b>	<b>0 ± 0</b>	<b>0 ± 0</b>	<b>0 ± 0</b>

Plants were grown for four weeks under permissive growth conditions (22°C, 120 μmol photon m<sup>-2</sup> s<sup>-1</sup>) and mature leaves were analyzed. Data are means ± SD (μg/cm<sup>2</sup>, n = 7). When significance is observed between genotypes (ANOVA, P < 0.05), pair-wise comparison of least square means is evaluated and non-significant groups are indicated by *a* or *b* with *a* being the highest group. N, neoxanthin; β-car, β-carotene; V, violaxanthin; A, antheraxanthin; Z, zeaxanthin; Chlb, chlorophyll *b*; Chla, chlorophyll *a*.